

Amendments to the Specification

Please amend paragraph [063] of the specification as follows:

[0063] Radioactive isotopes that can be used in the invention include yttrium-90 (Y-90), strontium-90 (Sr-90), In-111, Pd-103, P-32, cesium-131 (Cs-131), samarium-153 (Sm-153), holmium-166 (Ho-166), technetium-99m (Tc-99m), ytterbium-169 (Yb-169), gold-198 (Au-198), rhenium-188 (Re-188), rhenium-186 (Re-186), iridium-192 (Ir-192), lutetium-177 (Lu-177), barium-140 (Ba-140), selenium-72 (Se-72), iodine-131 (I-131), iodine-125 (I-125), dysprosium-165 (Dy-165), or any other suitable radioactive isotope. Proper mixing of radioisotopes is not only permissible but also desirable. Such mixing or cocktailing of radioisotopes to achieve desired properties may be achieved for example, by mixing homogeneously relatively low activity radioisotopes such as tracers (e.g. gamma-emitting, In-111) with relatively high activity radioisotopes for their therapeutic properties (e.g. pure beta-emitting, Y-90) within each microsphere. Such a combination makes it possible to radio-trace individual microspheres for improving Y-90 activity distribution and Y-90 dose confirmation. Thus, in the above example, In111 acts as tracer while Y-90 delivers the radiation dose. In another non-limiting example, the therapeutic radioisotope can be Y-90 and the tracer can be Tc-99m. Other combinations include P-32/In-111, P-32/Tc-99m, Ho-166/In-111, Ho-166/Tc-99m, Sm-153/In111, and Sm-153/Tc-99m. A person skilled in the art will readily appreciate other radioisotope combinations can be used. Furthermore, radioisotopes may be introduced with stable (or non-radioactive) isotopes. For example Y-90 (radioactive) may be introduced into base glass matrix in appropriate ratios with stable isotopes such as Y-89 such that the total yttrium as chemical species are maintained in a given range while Y-90 activity can be adjusted depending on the dose requirement. Generally, the radioisotope or radioisotope combination employed must satisfy two criteria. First, it must be one which provides a therapeutic dosage of radiation for treatment (e.g., for cancer), and/or radio-traceability or diagnostics, or other conditions as described below. For example, it is preferred to have a half-life or radiation energy range compatible with its use as an implant for therapy and/or diagnostics. Second, it must be a material which is compatible with the base glass matrix to be effectively encapsulated within it. Since the base glass matrices described in Table I can host all of the radioisotopes listed above, or isotope combinations thereof, it is expected that essentially all radioisotopes (natural or man made) can be encapsulated in one or more base glasses listed in Table I.